Access DB# 132849

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Jonathan Gepeau Examiner #: 75637 Date: 9-20-04
Art Unit: 1746 Phone Number 30 272-1299 Serial Number: 09/939345
Mail Box and Bldg/Room Location: 6C11 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Filing Date: _____

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please see attached.

****

STAFF USE ONLY	**Type of Search**		**Vendors and cost where applicable**	
Searcher: EJ	NA Sequence (#)		STN	
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)		Questel/Orbit	
Date Searcher Picked Up:	Bibliographic		Dr.Link	
Date Completed: 9-21-04	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time:	Other		Other (specify)	

PTO-1590 (8-01)

Request a Search

132849

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Tech Center:

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○ TC2900 ○ TC 3600 ○ TC 3700 ○ Law Lib ○ Other

Enter your Contact Information below:

Name: Jonathan Crepeau

Employee Number: 75637 Phone: 272-1299

Art Unit or Office: 1746 Building & Room Number: REM 6C11

Enter the case serial number (Required): 09/939345

If not related to a patent application, please enter NA here.

Class / Subclass(es) 429/213, 43; 361/516

Earliest Priority Filing Date: 8/24/01

Format preferred for results:

☑ *Paper* ☐ *Diskette* ☐ *E-mail*

Provide detailed information on your search topic:

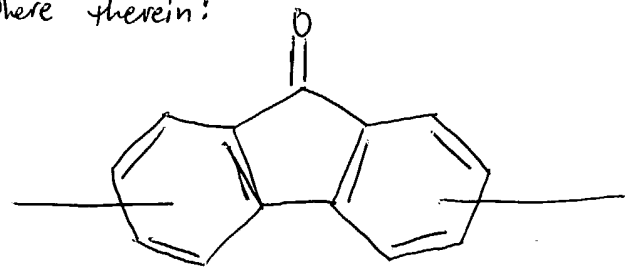
- In your own words, describe in detail the concepts or subjects you want us to search.
- Include synonyms, keywords, and acronyms. Define terms that have special meanings.
- *For Chemical Structure Searches Only*
  Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers
- *For Sequence Searches Only*
  Include all pertinent information (parent, child, divisional, or issued patent numbers) along with

the appropriate serial number.

- *For Foreign Patent Family Searches Only*
  Include the country name and patent number.
- Provide examples or give us relevant citations, authors, etc., if known.
- FAX or send the **abstract, pertinent claims** (not all of the claims), **drawings, or chemical structures** to your EIC or branch library.

Enter your Search Topic Information below:

An electrode, preferably for a battery, capacitor, or fuel cell, comprising a polymer having the following structure contained anywhere therein:



Also note examples in the attached drawings and the language used in attached claim 1 ("cyclopentanone condensed w/ two aromatic rings").

Special Instructions and Other Comments:
(For fastest service, let us know the best times to contact you, in case the searcher needs further clarification on your search.)

Press ALT + F, then P to print this screen for your own information.

SEND RESET

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FILE 'REGISTRY' ENTERED AT 12:18:30 ON 21 SEP 2004
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     FILE 'REGISTRY' ENTERED AT 11:52:10 ON 21 SEP 2004
                ACT CRE345/A
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L2              SCR 2043
L3            450 SEA FILE=REGISTRY SSS FUL L1 AND L2
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L6              7 S L4 SSS FUL SUB=L3
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L9              2 S L6
L10           328 S L3
L11        726251 S ELECTROD## OR CATHOD## OR ANOD##
L12        198545 S BATTERY OR BATTERIES OR (ELECTROCHEM? OR ELECTROLY? OR
L13         43720 S FUELCELL? OR FUEL?(2A)(CELL OR CELLS)
L14            23 S L10 AND (L11 OR L12 OR L13)
L15            22 S L14 NOT L9

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L1              STR
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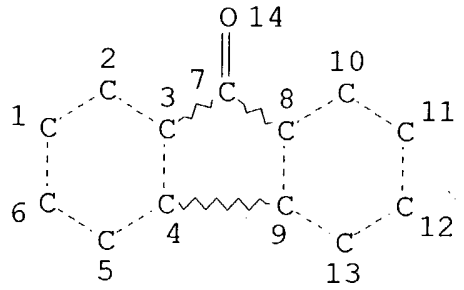

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
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STEREO ATTRIBUTES: NONE

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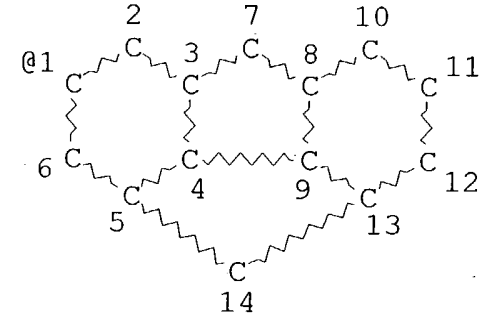
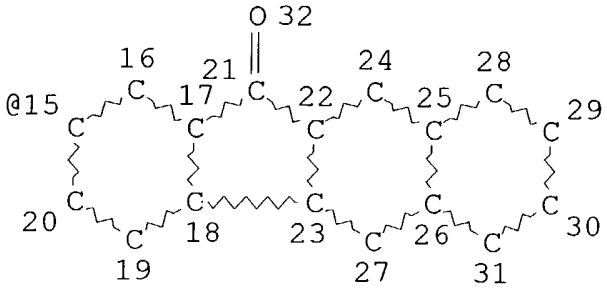
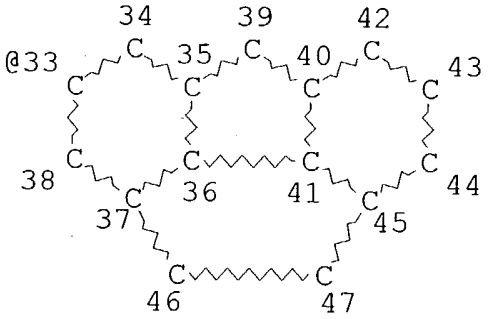
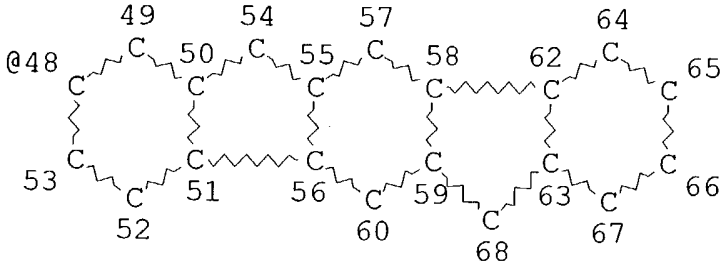
L3 450 SEA FILE=REGISTRY SSS FUL L1 AND L2
L4 STR









G1 71

VAR G1=1/15/33/48
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 68

STEREO ATTRIBUTES: NONE
L6 7 SEA FILE=REGISTRY SUB=L3 SSS FUL L4

100.0% PROCESSED 80 ITERATIONS 7 ANSWERS
SEARCH TIME: 00.00.01

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FILE LAST UPDATED: 01 May 1997 (19970501/UP)

=> d l8 1 ti

L8 ANSWER 1 OF 1 CAOLD COPYRIGHT 2004 ACS on STN
AN CA61:3807h CAOLD
TI electronic interaction in ketyl radicals

=> file hca

FILE 'HCA' ENTERED AT 12:19:23 ON 21 SEP 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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=> d l9 1-2 ibib abs hitstr hitrn

INSTANT APP.

L9 ANSWER 1 OF 2 HCA COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 138:207837 HCA

TITLE: Polymer materials for use in an electrode for use in electric energy-generating or -storing devices
INVENTOR(S): Umemoto, Teruo
PATENT ASSIGNEE(S): IM & T Research, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 21 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003044680	A1	20030306	US 2001-939345	20010824

PRIORITY APPLN. INFO.: US 2001-939345 20010824

AB A carbonyl arom. polymer electrode material, suitable for use as both pos. and neg. electrodes in elec. storage devices, is disclosed. The polymers contain at least one unit having at least one cyclopentanone structure condensed with at least two arom. rings. Exemplary carbonyl arom. polymers include polymers contg. units of 9-fluorenone, cyclopenta[def]fluorene-4,8-dione, and benzo[b]fluoren-11-one. The carbonyl structure in the polymers make them very effective electrode materials which can also be anion or cation doped to increase their performance further. In addn., the polymers are proton or hydroxide anion mediators which makes them also suitable for use in electrodes in fuel cells.

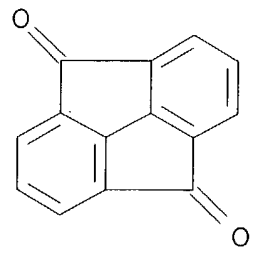
IT **500149-97-3**, Poly(Cyclopenta[def]fluorene-4,8-dione)
500149-98-4, Poly(benzo[b]fluoren-11-one)
500149-99-5, Poly(Dibenzo[b,h]fluoren-12-one)
500150-00-5, Poly(4H-Cyclopenta[def]phenanthren-4-one)
500150-02-7 500150-03-8, Poly(Indeno[1,2-b]fluorene-6,12-dione)
(polymer materials for use in electrode for use in elec. energy-generating or -storing devices)

RN 500149-97-3 HCA
CN Cyclopenta[def]fluorene-4,8-dione, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 23702-27-4

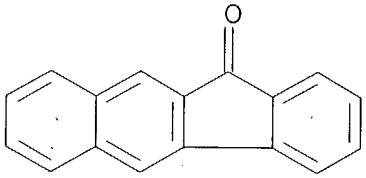
CMF C14 H6 O2



RN 500149-98-4 HCA
CN 11H-Benzo[b]fluoren-11-one, homopolymer (9CI) (CA INDEX NAME)

CM 1

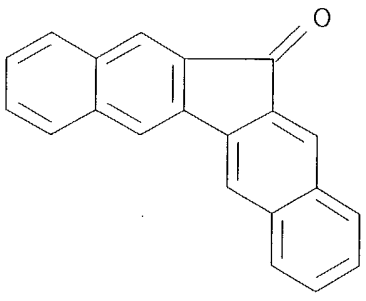
CRN 3074-03-1
CMF C17 H10 O



RN 500149-99-5 HCA
CN 12H-Dibenzo[b,h]fluoren-12-one, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 53223-75-9
CMF C21 H12 O

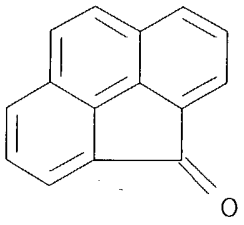


RN 500150-00-5 HCA
CN 4H-Cyclopenta[def]phenanthren-4-one, homopolymer (9CI) (CA INDEX

NAME)

CM 1

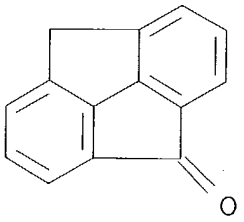
CRN 5737-13-3
CMF C15 H8 O



RN 500150-02-7 HCA
CN Cyclopenta[def]fluoren-4(8H)-one, homopolymer (9CI) (CA INDEX NAME)

CM 1

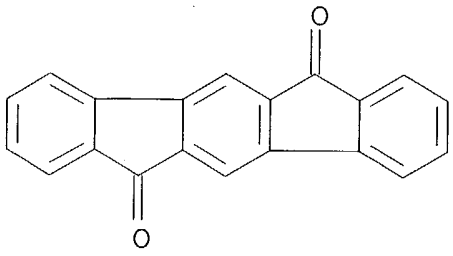
CRN 500150-01-6
CMF C14 H8 O



RN 500150-03-8 HCA
CN Indeno[1,2-b]fluorene-6,12-dione, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 5695-13-6
CMF C20 H10 O2



IT **500149-97-3,** Poly(Cyclopenta[def]fluorene-4,8-dione)
500149-98-4, Poly(benzo[b]fluoren-11-one)
500149-99-5, Poly(Dibenzo[b,h]fluoren-12-one)
500150-00-5, Poly(4H-Cyclopenta[def]phenanthren-4-one)
500150-02-7 500150-03-8, Poly(Indeno[1,2-b]fluorene-6,12-dione)
(polymer materials for use in electrode for use in elec. energy-generating or -storing devices)

L9 ANSWER 2 OF 2 HCA COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 131:200157 HCA
TITLE: Poly(indenofluorene)s (PIF) - novel conjugated polyhydrocarbon polymers
AUTHOR(S): Reisch, Helge A.; Schert, Ullrich
CORPORATE SOURCE: Max-Planck-Institut fir Polymerforschung, Mainz, D-55128, Germany
SOURCE: Synthetic Metals (1999), 101(1-3), 128-129
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We are describing the synthesis of a novel class of hydrocarbon polymers, poly(indenofluorene)s PIF, composed of 3,9-di-t-butylindeno[1,2-b]fluorene- (2) or 3,7-di-t-butylindeno[2,1-b]fluorene (7) building blocks. The polymers, with high d.p. (DP: > 20), were generated by reductive coupling of the tetrachloroindenofluorene monomers 5 and 6 with low valent transition metal reagents as dehalogenating agents. PIF 2 exhibits a widely red shifted longest wavelength absorption max. (λmax: ca. 800 nm, 1,55 eV). We have also generated diketo-terminated oligomeric model compds. 9. The oligomers 9 are suitable models for an investigation of the electronic properties of the corresponding polymer PIF 2.

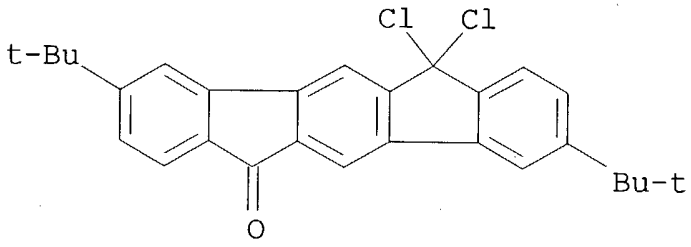
IT **241156-78-5P**
(model oligomer; prepn. and characterization of poly(indenofluorene)s)

RN 241156-78-5 HCA

CN Indeno[1,2-b]fluoren-6(12H)-one, 12,12-dichloro-3,9-bis(1,1-dimethylethyl)-, polymer with 6,6,12,12-tetrachloro-3,9-bis(1,1-dimethylethyl)-6,12-dihydroindeno[1,2-b]fluorene (9CI) (CA INDEX NAME)

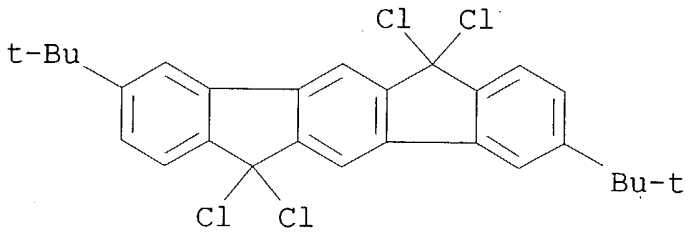
CM 1

CRN 241156-77-4
CMF C28 H26 Cl2 O



CM 2

CRN 150629-30-4
CMF C28 H26 Cl4



IT **241156-78-5P**
(model oligomer; prepn. and characterization of poly(indenofluorene)s)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l15 1-22 cbib abs hitstr hitind

Bad date

L15 ANSWER 1 OF 22 HCA COPYRIGHT 2004 ACS on STN
141:130310 Electrochemical polymerization of 9-fluorenone. Cihaner, Atilla; Tirkes, Seha; Onal, Ahmet M. (Faculty of Engineering, Atilim University, Ankara, 06836, Turk.). Journal of Electroanalytical

Chemistry, 568(1-2), 151-156 (English) 2004. CODEN: JECHES.
Publisher: Elsevier.

AB Electrochem. polymn. of 9-fluorenone, FO, was studied in CH2Cl2 soln. with tetrabutylammonium tetrafluoroborate, TBABF4, as the electrolyte, via const. potential electrolysis, CPE. Prior to CPE, the redox behavior of FO was studied in the same solvent/electrolytic medium using cyclic voltammetry, CV. CPE of FO yielded an insol. polymer deposit on the **electrode** surface. The product was characterized by FTIR spectroscopy techniques. The redox and spectroelectrochem., SPEL, behavior of the polymer were studied by CV and in situ UV-visible spectrophotometric techniques at various potentials, resp. The cond. was measured using a 2-probe technique and the paramagnetic behavior of the polymer was monitored using in situ ESR spectroscopy.

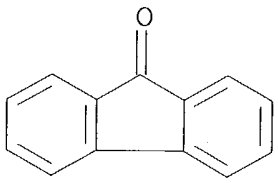
IT **500149-96-2P**, Poly(9-fluorenone)
(electrochem. prepn. and cond. and cyclic voltammetry and IR spectra of)

RN 500149-96-2 HCA

CN 9H-Fluoren-9-one, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 486-25-9
CMF C13 H8 O



CC 72-2 (Electrochemistry)
Section cross-reference(s): 35, 36

IT UV and visible spectra
(of poly(fluorenone) on ITO **electrode** in CH2Cl2 contg. tetrabutylammonium tetrafluoroborate)

IT ESR (electron spin resonance)
(of poly(fluorenone) on Pt **electrode** during electrochem. oxidn. and redn.)

IT Cyclic voltammetry
(of poly(fluorenone)-coated **electrode** in CH2Cl2 contg. tetrabutylammonium tetrafluoroborate)

IT **500149-96-2P**, Poly(9-fluorenone)
(electrochem. prepn. and cond. and cyclic voltammetry and IR spectra of)

L15 ANSWER 2 OF 22 HCA COPYRIGHT 2004 ACS on STN

140:407358 Excitation energy transfer from polyfluorene to fluorenone defects. Gong, Xiong; Moses, Daniel; Heeger, Alan J.; Xiao, Steven (Institute for Polymers and Organic Solids, University of California at Santa Barbara, Santa Barbara, CA, 93106-9530, USA). Synthetic Metals, 141(1-2), 17-20 (English) 2004. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science B.V..

AB Poly(9,9-dioctylfluorene-co-fluorenone) with 1% fluorenone, (PFO-F(1%)), was synthesized as a model compd. to investigate the optical and elec. effects of fluorenone defects in poly(9,9-dioctylfluorenyl-2,7-diyl), PFO. Photoluminescence (PL) studies indicate efficient Forster energy transfer from PFO to fluorenone "impurities" which are responsible for the pronounced green emission from PFO-F(1%). In electroluminescence (EL), the more pronounced green emission from PFO-F(1%) results from a combination of Forster energy transfer, charge carrier trapping, and relatively easy injection (from the **electrodes**) of carriers into the fluorenone traps.

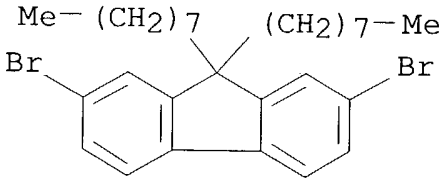
IT **688318-32-3P**, 2,7-Dibromo-9,9-dioctylfluorene-2,7-dibromo-9-fluorenone copolymer
(excitation energy transfer in polydioctylfluorene contg. fluorenone moieties as model defects)

RN 688318-32-3 HCA

CN 9H-Fluoren-9-one, 2,7-dibromo-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

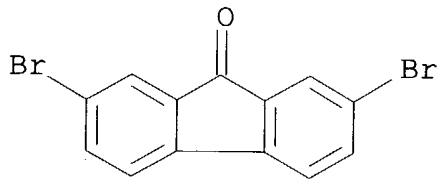
CM 1

CRN 198964-46-4
CMF C29 H40 Br2



CM 2

CRN 14348-75-5
CMF C13 H6 Br2 O



CC 36-5 (Physical Properties of Synthetic High Polymers)

IT **688318-32-3P**, 2,7-Dibromo-9,9-dioctylfluorene-2,7-dibromo-9-fluorenone copolymer
(excitation energy transfer in polydioctylfluorene contg. fluorenone moieties as model defects)

L15 ANSWER 3 OF 22 HCA COPYRIGHT 2004 ACS on STN Bad date

140:324187 Conducting polymer devices for inter-converting light and electricity. Krebs, Frederik C.; Jorgensen, Mikkel; Almdal, Kristoffer (Riso National Laboratory, Den.). PCT Int. Appl. WO 2004030029 A2 20040408, 35 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-EP10258 20030916. PRIORITY: GB 2002-22510 20020927.

AB A photovoltaic electroluminescent cell comprises a first **electrode** and a second **electrode** sepd. by dye linked block polymer mol. contg. an n-type semiconductor polymer block linked via a light absorbing monomeric dye moiety to a p-type semiconductor polymer block, the two polymer blocks being phase sepd. into distinct layers. The n-type semiconductor polymer block and the p-type semiconductor polymer block are each independently formed from selected polymers formed from terphenylenevinylene, polyaniline, polythiopene, poly(2-vinyl-pyridine), poly(N-vinylcarbazole), polyacetylene, poly(p-phenylenevinylene), polym. phenylene, poly(p-phenylene), poly(2,6-pyridine), or polypyrrole monomer, the polymers being substituted with electron withdrawing substituents in the case of the n-type polymer block and with electron donating substituents in the case of the p-type polymer block.

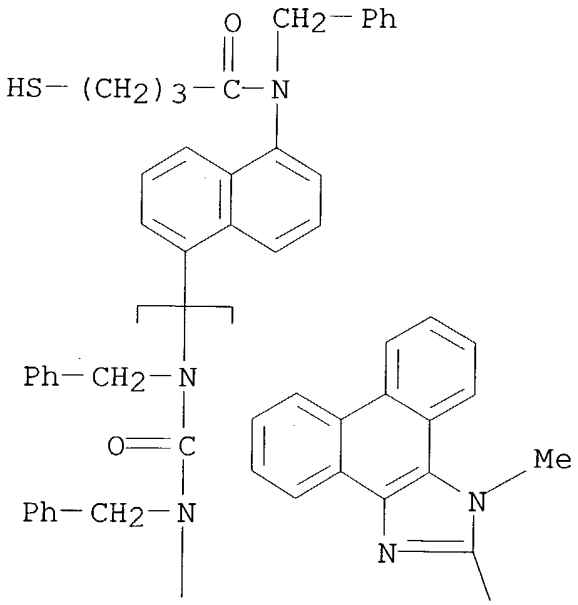
IT **678997-47-2P 678997-48-3P**
(charge transfer complex; conducting polymer devices for inter-converting light and electricity)

RN 678997-47-2 HCA
CN [1,1':4',1''-Terphenyl]-4-acetonitrile, 4''-[2-cyano-2-(4''-formyl-2',5'-dioctyl[1,1':4',1''-terphenyl]-4-yl)ethenyl]-2',5'-dioctyl-α-[[4-(2,5,7-trinitro-9-oxo-9H-fluoren-4-yl)phenyl]methylene]-, compd. with α-[5-[(4-mercapto-1-oxobutyl)(phenylmethyl)amino]-1-naphthalenyl]-ω-[[[[4-[[2,6-bis[3-(1-methyl-1H-phenanthro[9,10-d]imidazol-2-yl)phenyl]-4-pyridinyl]thio]phenyl](phenylmethyl)amino]carbonyl](phenylmethyl)amino]poly[[(phenylmethyl)imino]carbonyl[(phenylmethyl)imino]-1,5-naphthalenediyl] (1:1) (9CI) (CA INDEX NAME)

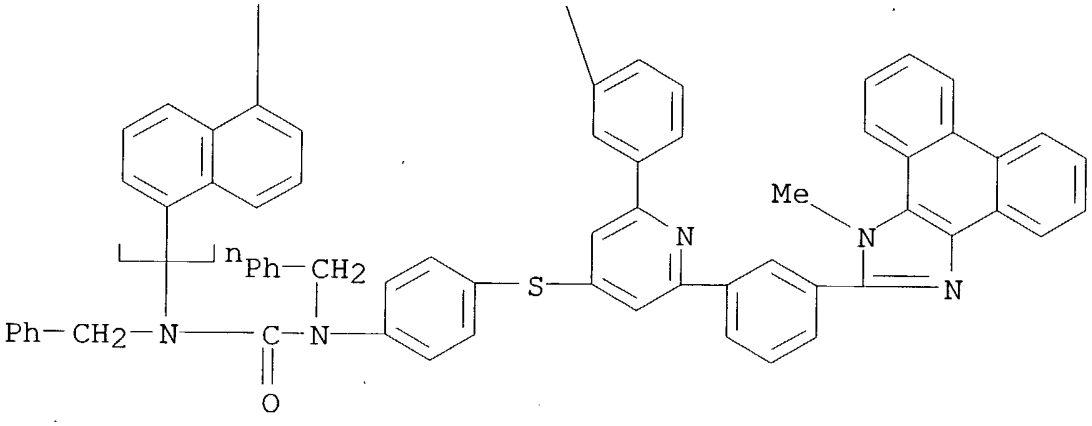
CM 1

CRN 678997-45-0
CMF (C25 H20 N2 O)n C91 H70 N8 O2 S2
CCI PMS

PAGE 1-A



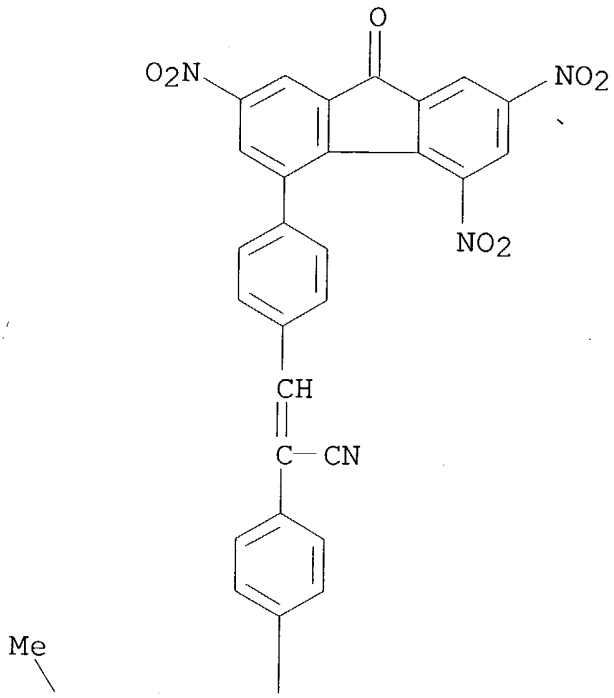
PAGE 2-A



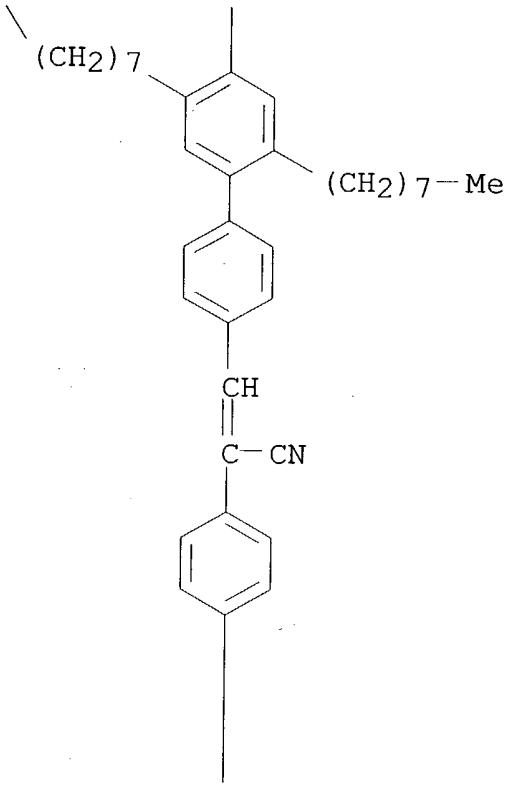
CM 2

CRN 677725-76-7
CMF C94 H99 N5 O8

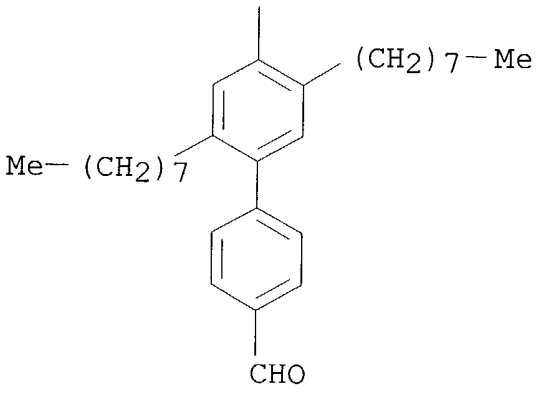
PAGE 1-A



PAGE 2-A



PAGE 3-A



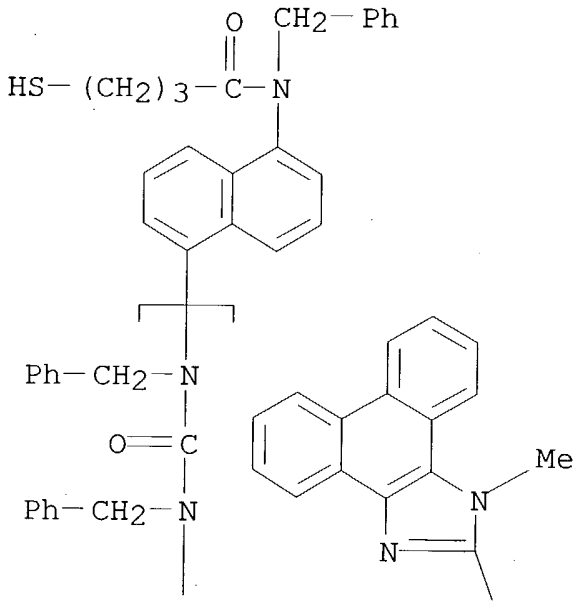
RN 678997-48-3 HCA
CN [1,1':4',1''-Terphenyl]-4-acetonitrile, 4''-[2-cyano-2-(4''-formyl-

2',5'-dioctyl[1,1':4',1''-terphenyl]-4-yl)ethenyl]-α-[[4''-[1-cyano-2-[4-(2,5,7-trinitro-9-oxo-9H-fluoren-4-yl)phenyl]ethenyl]-2',5'-dioctyl[1,1':4',1''-terphenyl]-4-yl]methylene]-2',5'-dioctyl-, compd. with α-[5-[(4-mercapto-1-oxobutyl)(phenylmethyl)amino]-1-naphthalenyl]-ω-[[[[4-[[2,6-bis[3-(1-methyl-1H-phenanthro[9,10-d]imidazol-2-yl)phenyl]-4-pyridinyl]thio]phenyl](phenylmethyl)amino]carbonyl](phenylmethyl)amino]poly[[(phenylmethyl)imino]carbonyl[(phenylmethyl)imino]-1,5-naphthalenediyl] (1:1) (9CI) (CA INDEX NAME)

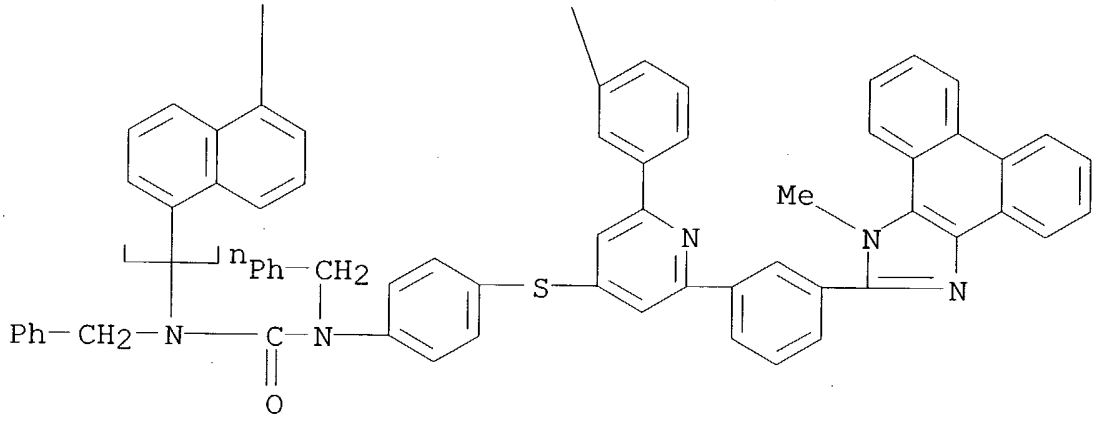
CM 1

CRN 678997-45-0
CMF (C25 H20 N2 O)n C91 H70 N8 O2 S2
CCI PMS

PAGE 1-A



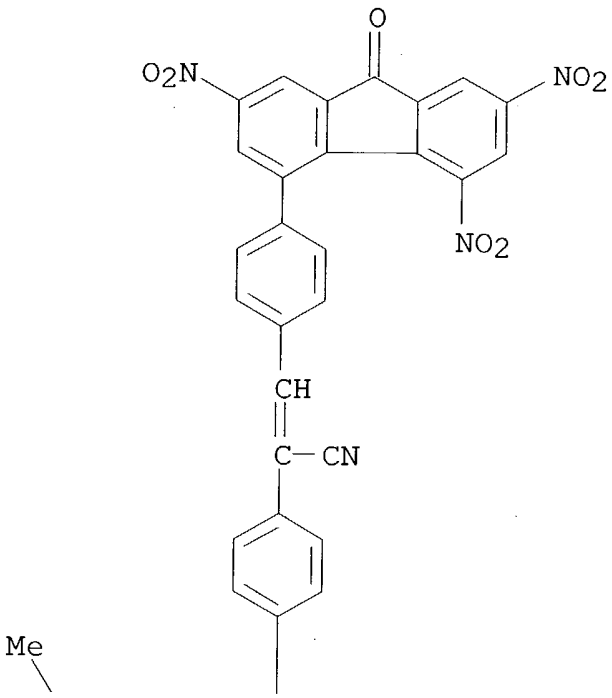
PAGE 2-A



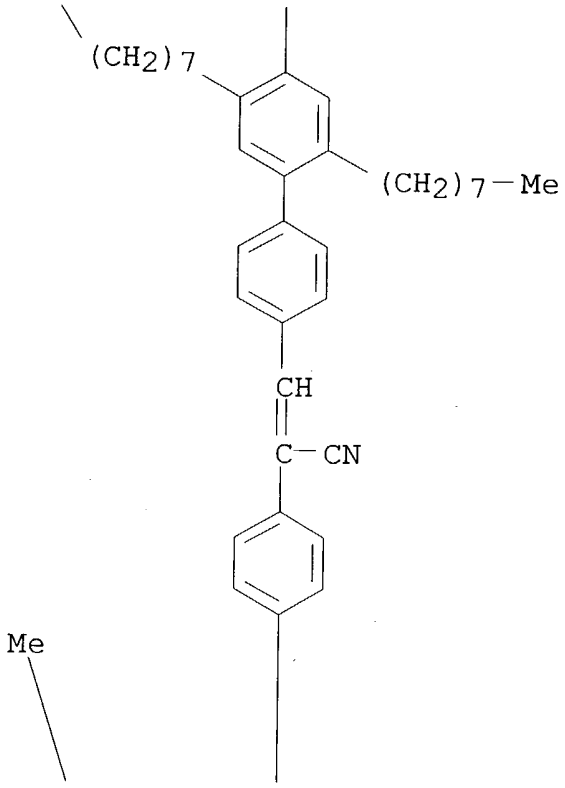
CM 2

CRN 677725-70-1
CMF C131 H144 N6 O8

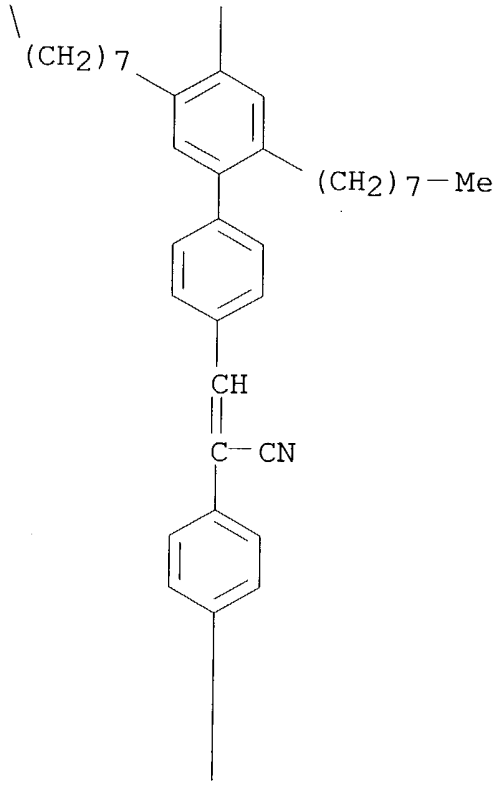
PAGE 1-A



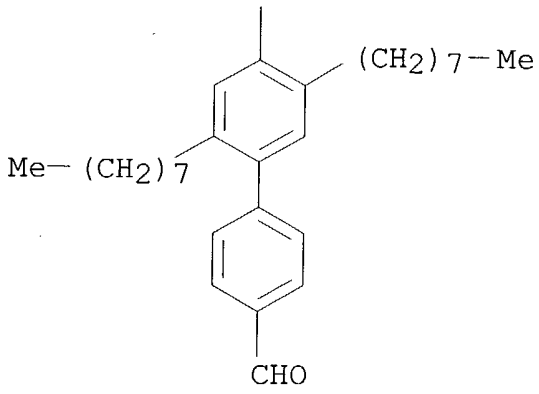
PAGE 2-A



PAGE 3-A



PAGE 4-A



IT **678997-46-1**
(charge transfer complex; conducting polymer devices for

inter-converting light and electricity)

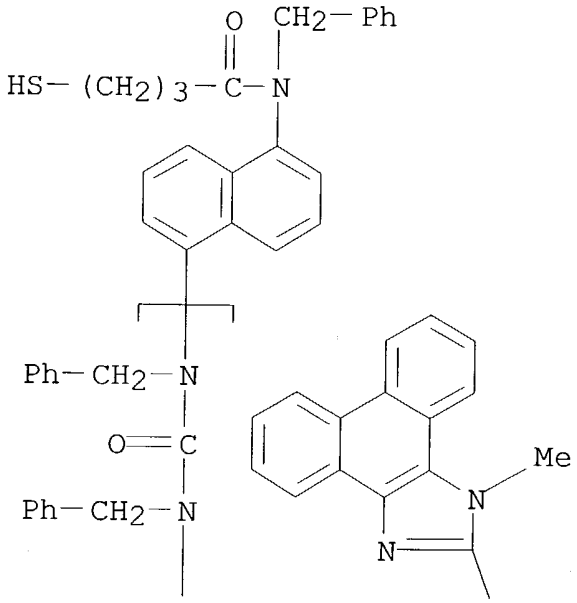
RN 678997-46-1 HCA

CN [1,1':4',1''-Terphenyl]-4-acetonitrile, 4''-formyl-2',5'-dioctyl-α-[[4-(2,5,7-trinitro-9-oxo-9H-fluoren-4-yl)phenyl]methylene]-, compd. with α-[5-[(4-mercapto-1-oxobutyl)(phenylmethyl)amino]-1-naphthalenyl]-ω-[[[[4-[[2,6-bis[3-(1-methyl-1H-phenanthro[9,10-d]imidazol-2-yl)phenyl]-4-pyridinyl]thio]phenyl](phenylmethyl)amino]carbonyl](phenylmethyl)amino]poly[[(phenylmethyl)imino]carbonyl[(phenylmethyl)imino]-1,5-naphthalenediyl] (1:1) (9CI) (CA INDEX NAME)

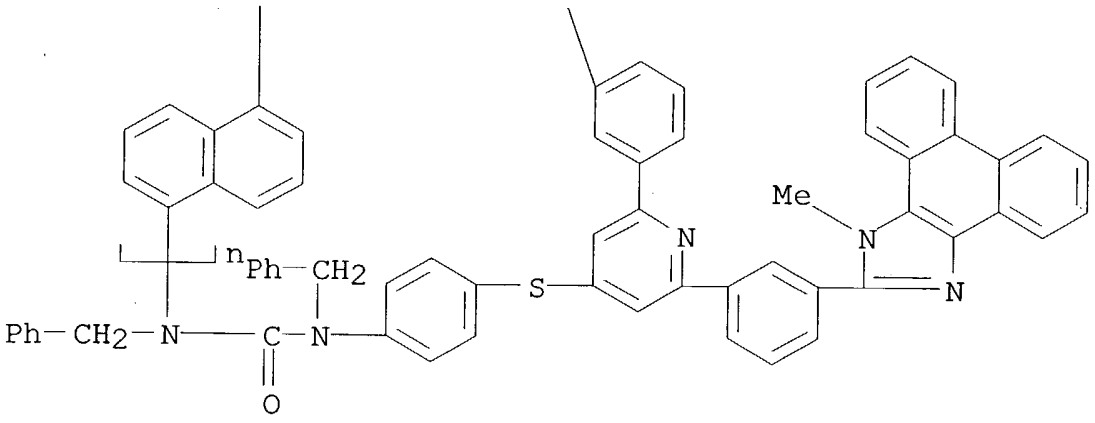
CM 1

CRN 678997-45-0
CMF (C25 H20 N2 O)n C91 H70 N8 O2 S2
CCI PMS

PAGE 1-A



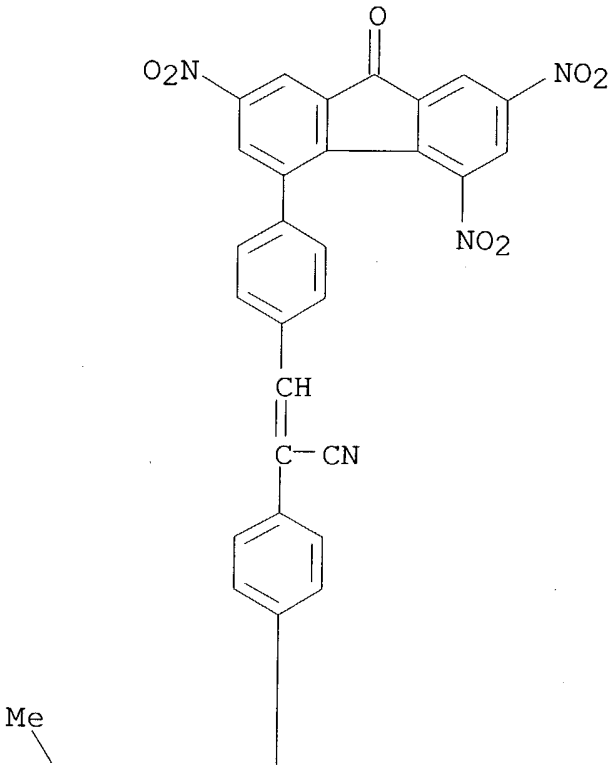
PAGE 2-A



CM 2

CRN 677725-75-6
CMF C57 H54 N4 O8

PAGE 1-A



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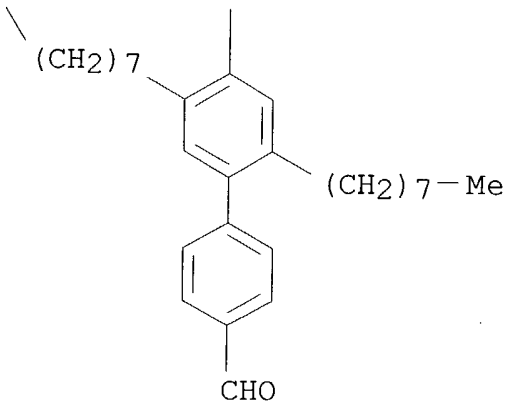
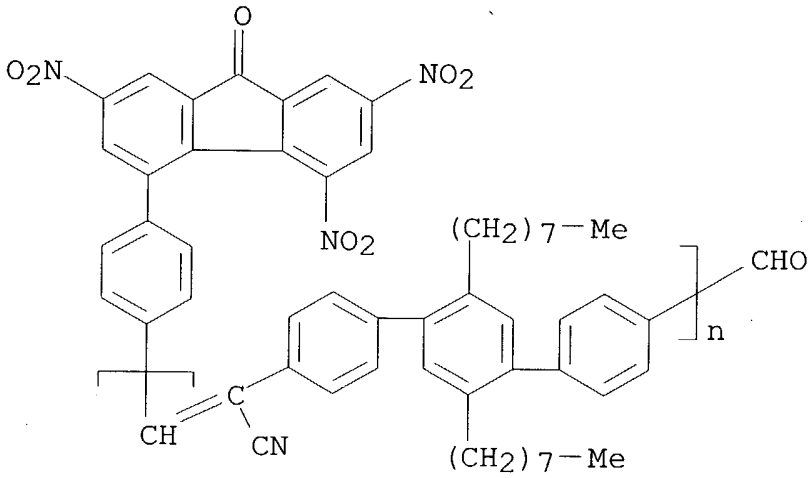


IT **678997-44-9P**
(conducting polymer devices for inter-converting light and

electricity)

RN 678997-44-9 HCA

CN Poly[(2',5'-dioctyl[1,1':4',1''-terphenyl]-4,4''-diyl)(1-cyano-1,2-ethenediyl)], α-formyl-ω-[4-(2,5,7-trinitro-9-oxo-9H-fluoren-4-yl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM H01L

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 74, 76

IT **678997-47-2P 678997-48-3P**
(charge transfer complex; conducting polymer devices for inter-converting light and electricity)

IT **678997-46-1**
(charge transfer complex; conducting polymer devices for inter-converting light and electricity)

IT 677725-70-1P 678997-19-8P **678997-44-9P** 678997-45-0P
(conducting polymer devices for inter-converting light and electricity)

IT 7429-90-5, Aluminum, uses 7439-95-4, Magnesium, uses 7440-00-8, Neodymium, uses 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses 7440-19-9, Samarium, uses 7440-20-2, Scandium, uses 7440-22-4, Silver, uses 7440-33-7, Tungsten, uses 7440-47-3, Chromium, uses 7440-53-1, Europium, uses 7440-57-5, Gold, uses 7440-65-5, Yttrium, uses 7440-70-2, Calcium, uses 50926-11-9, Ito 157682-41-2
(**electrode**; conducting polymer devices for inter-converting light and electricity)

L15 ANSWER 4 OF 22 HCA COPYRIGHT 2004 ACS on STN

140:77520 Preparation and spectroelectrochemical behavior of a new alternate copolymer of 3,3'-di-n-octyl-2,2'-bithiophene and fluoren-9-one. Demadrille, Renaud; Divisia-Blohorn, Bernadette;

Zagorska, Malgorzata; Quillard, Sophie; Rannou, Patrice; Travers, Jean Pierre; Pron, Adam (DRFMC, Laboratoire de Physique des Metaux Synthetiques (CEA-CNRS-Universite Grenoble, UMR5819-SPrAM), CEA-Grenoble, Grenoble, 38054, Fr.). New Journal of Chemistry, 27(10), 1479-1484 (English) 2003. CODEN: NJCHE5. ISSN: 1144-0546. Publisher: Royal Society of Chemistry.

AB The synthesis and spectroelectrochem. behavior of a new soln. processible conjugated polymer, namely poly[{5,5'-(3,3'-di-n-octyl-2,2'-bithiophene)}-alt-(2,7-fluoren-9-one)] (abbreviated as PDOBTF), are described. PDOBTF can be considered as the first member of a new family of conjugated copolymers-poly(oligothiophene-alt-fluoren-9-one)s-whose properties can be tuned by changing the length of the oligothiophene segments and their regiochem. PDOBTF can be obtained by oxidative polymn. of 2,7-bis(4-octylthien-2-yl)-fluoren-9-one or by condensation polymn. of 2,7-bis(5-bromo-4-octylthien-2-yl)-fluoren-9-one using a modification of Yamamoto coupling. Both prepn. methods lead to a mixt. of polymeric and oligomeric species and require post-polymn. fractionating if high mol. fractions are to be obtained. Oxidative polymn. gives product of a higher mol. wt. (Mn = 41.0 kDa, Mw/Mn = 1.81 for the highest mol. wt. fraction) as compared to the one prepd. by Yamamoto condensation polymn. (Mn = 13.3 kDa, Mw/Mn = 1.45 for the highest mol. wt. fraction).Electrochem. oxidn. of PDOBTF in an nonaq. electrolyte (0.1 M Bu4NBF4/acetonitrile) gives rise to an **anodic** peak at E = 835 mV, which can be ascribed to the p-type doping of the copolymer. The extension of the potential to E = 1500 mV results in the oxidative degrdn. of the copolymer and induces total loss of its electroactivity. UV-Vis-NIR and Raman spectroelectrochem. data are consistent with the oxidative doping. The latter technique enables the monitoring of the doping-induced changes in both structural sub-units of the copolymer: the bithiophene sub-unit and the fluoren-9-one one.

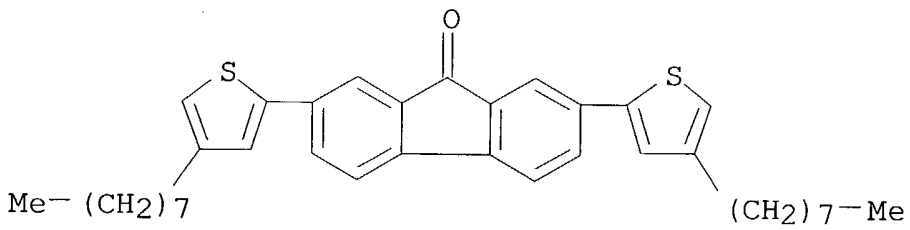
IT **612531-89-2P 612531-90-5P 612531-91-6P**
(prepn. and spectroelectrochem. behavior of new alternate polythiophene copolymer of)

RN 612531-89-2 HCA

CN 9H-Fluoren-9-one, 2,7-bis(4-octyl-2-thienyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

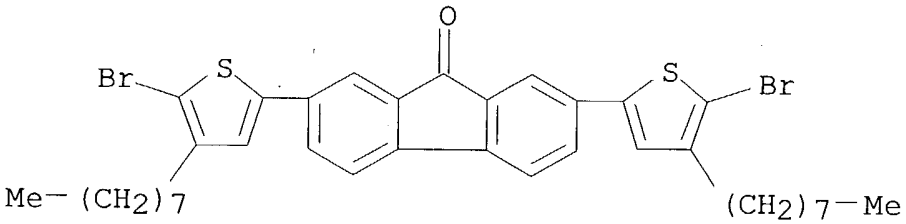
CRN 612531-87-0
CMF C37 H44 O S2



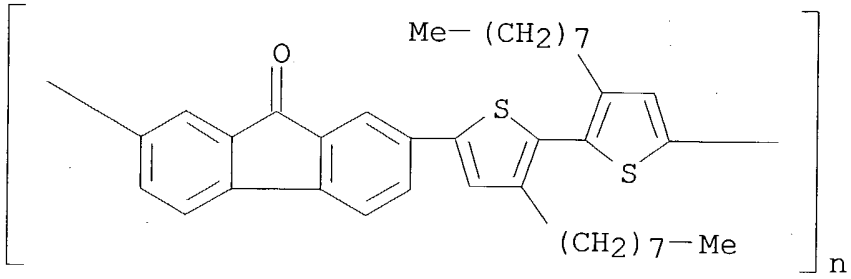
RN 612531-90-5 HCA
CN 9H-Fluoren-9-one, 2,7-bis(5-bromo-4-octyl-2-thienyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 612531-88-1
CMF C37 H42 Br2 O S2



RN 612531-91-6 HCA
CN Poly[(3,3'-dioctyl[2,2'-bithiophene]-5,5'-diyl)(9-oxo-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)



CC 35-6 (Chemistry of Synthetic High Polymers)
IT **612531-89-2P 612531-90-5P 612531-91-6P**
(prepn. and spectroelectrochem. behavior of new alternate polythiophene copolymer of)

L15 ANSWER 5 OF 22 HCA COPYRIGHT 2004 ACS on STN

138:277747 Method for preparing polymers containing cyclopentanone structures. Umemoto, Teruo (IM&T Research, Inc., USA). U.S. Pat. Appl. Publ. US 2003066757 A1 20030410, 18 pp., Cont.-in-part of U.S. Ser. No. 939,141. (English). CODEN: USXXCO. APPLICATION: US 2001-23365 20011214. PRIORITY: US 2001-939141 20010824.

AB A method to electrolytically polymerize arom. hydrocarbons and oxidize cyclopentane structures within the hydrocarbons into cyclopentanone structures is disclosed including a method to electrolyze fluorene in the presence of an ester to produce poly(9-fluorenone). A method to electrolytically oxidize polymers having cyclopentane structures to polymers having cycloppentanone structures is also disclosed including a method to electrolyze poly(fluorene) to produce poly(9-fluorenone). These methods may include performing two sep. and independent electrolysis steps to prep. higher yield cyclopentanone structures. In addn., a method to chem. oxidize polymers contg. cyclopentane structures into polymers contg. cyclopentanone structures is disclosed, including a method to oxidize poly(fluorene), with a chem. prepd. oxidizing agent, to produce poly(9-fluorenone).

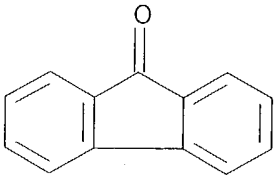
IT **500149-96-2P**, 9H-Fluoren-9-one, homopolymer
(formation by electrooxidn. of fluorene in prepg. polymers contg. cyclopentanone structures)

RN 500149-96-2 HCA

CN 9H-Fluoren-9-one, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 486-25-9
CMF C13 H8 O



IC ICM C25B003-00

NCL 205429000; 205414000

CC 72-7 (Electrochemistry)
Section cross-reference(s): 38

IT **500149-96-2P**, 9H-Fluoren-9-one, homopolymer
(formation by electrooxidn. of fluorene in prepg. polymers contg. cyclopentanone structures)

IT 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses
(prepg. polymers contg. cyclopentanone structures by electrooxidn. of monomers in **electrolytic cell**

with **anodes** from)

Bad date

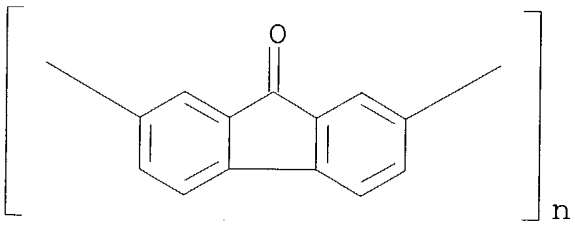
L15 ANSWER 6 OF 22 HCA COPYRIGHT 2004 ACS on STN
138:46874 Double-layer formation in organic light-emitting **electrochemical cells**. Ouisse, T.; Stephan, O.; Armand, M.; Lepretre, J. C. (Laboratoire de Spectrometrie Physique, Universite Joseph Fourier Grenoble I and CNRS (UMR C5588), Saint-Martin d'He` res, 38042, Fr.). Journal of Applied Physics, 92(5), 2795-2802 (English) 2002. CODEN: JAPIAU. ISSN: 0021-8979. Publisher: American Institute of Physics.

AB The authors present a systematic anal. of the current transients accompanying the formation of the **electrode**-electrolyte double layers in org. light-emitting **electrochem. cells**. By using various room-temp. molten salts, conducting polymers, and **electrodes**, the current I always decreases as a power law of time, I∝t-n. The current transients are formed of various time domains, each being characterized by a power-law exponent n<1. Impedance measurements conducted from 5 Hz to 5 MHz demonstrate that these transients represent the time response of a simple combination of const. phase angle (CPA) impedances, Zn∝(jω)n, and of the electrolyte ionic cond. The phys. origin of the CPA impedance is attributed to the roughness of the interface between the **electrodes** and the electrolyte, and to the phase sepn. within the salt-polymer blend.

IT **107207-76-1D**, Poly(9-oxo-9H-fluorene-2,7-diyl), fluorene polymers contg.
(double-layer formation in org. light-emitting **electrochem. cells**)

RN 107207-76-1 HCA

CN Poly(9-oxo-9H-fluorene-2,7-diyl) (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 72

ST light emitting **electrochem cell** electroluminescent device; tid

IT Electric impedance
Electrochemical cells
Electroluminescent devices

(double-layer formation in org. light-emitting **electrochem. cells**)

IT **107207-76-1D**, Poly(9-oxo-9H-fluorene-2,7-diyl), fluorene polymers contg. 123863-98-9 133019-09-7, Poly(9,9-dihexyl-9H-fluorene-2,7-diyl) 133019-09-7D, Poly(9,9-dihexyl-9H-fluorene-2,7-diyl), fluorene polymers contg. 268536-01-2 478971-53-8 478971-56-1

(double-layer formation in org. light-emitting **electrochem. cells**)

relevant

L15 ANSWER 7 OF 22 HCA COPYRIGHT 2004 ACS on STN

137:370794 Preparations of electroactive fluorene-based copolymers and devices made therewith. Uckert, Frank P.; Simmons, Howard E. (E. I. Du Pont de Nemours & Co., USA). PCT Int. Appl. WO 2002090415 A1 20021114, 37 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-US14094 20020503. PRIORITY: US 2001-PV288314 20010503.

AB The title copolymers are prepd. from: (A) a fluorene-based first monomer unit, with halogenated substituents preferred, and (B) a second monomer unit selected from seven types of arom. compds., in the presence of a organometallic compd. as catalyst, and are useful for coating electron injection/transport layers in electronic devices. An example was prepd. from 2,7-diiodo-9,9-bis(2-ethylhexyl)fluorene (1.08 g, 1.68 mmol) and 2,5-bis(p-bromophenyl)-N-(p-hexylphenyl)pyrrole (0.3 g, 0.56 mmol) in MePh in the presence of bis(1,5-cyclooctadiene)nickel(0) (1.23 g, 4.48 mmol), 2,2'-bipyridyl (0.70 g, 4.48 mmol), and 1,5-cyclooctadiene (0.48 g, 4.48 mmol).

IT **475114-77-3P**

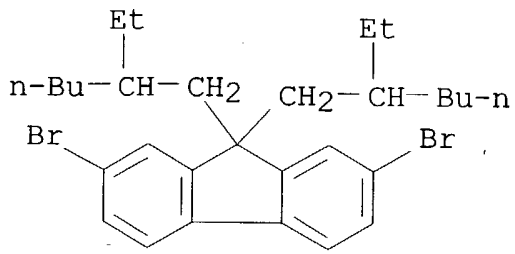
(prepns. of electroactive fluorene-based copolymers useful for electronic devices)

RN 475114-77-3 HCA

CN 9H-Fluoren-9-one, 2,7-dibromo-, polymer with 2,7-dibromo-9,9-bis(2-ethylhexyl)-9H-fluorene (9CI) (CA INDEX NAME)

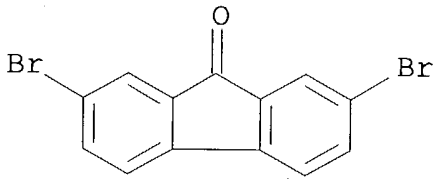
CM 1

CRN 188200-93-3
CMF C29 H40 Br2



CM 2

CRN 14348-75-5
CMF C13 H6 Br2 O



IC ICM C08G061-00
ICS C08F014-18; C08F214-18
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 42, 76
IT 50926-11-9, ITO
(**anode**; fabrication of electronic devices using electroactive fluorene-based copolymers for coating hole injection/transport layers)
IT 5720-05-8DP, 4-Methylbenzeneboronic acid, reaction product with 1,4-benzenediboronic acid bis(neopentyl glycol) cyclic ester-2,7-diiodo-9,9-bis(2-ethylhexyl)fluorene copolymer 475114-73-9P 475114-74-0P 475114-75-1P 475114-76-2P **475114-77-3P** 475114-78-4DP, reaction product with 4-methylbenzeneboronic acid
(prepns. of electroactive fluorene-based copolymers useful for electronic devices)

bad date

L15 ANSWER 8 OF 22 HCA COPYRIGHT 2004 ACS on STN
136:254349 Organic electroluminescent device. Agata, Takashi; Okuda, Daisuke; Yoneyama, Hiroto; Seki, Mieko; Mashimo, Kiyokazu; Hirose, Eiichi; Sato, Katsuhiro; Imai, Akira; Yamamoto, Yasuo; Sugisaki, Hiroshi (Fuji Xerox Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002075646 A2 20020315, 16 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 2000-259023 20000829.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to an org. electroluminescent device comprising org. layers sandwiched between a **cathode** and an **anode**, wherein the org. layers comprises a polymer prepd. from CH2=CR1-CO-A [R1 = H or Me group; A = I-V [X = O, C(CN)2, C(CN)COOR2, and C(COOR2)(COOR3); Y = O and -COO(CH2)nO-; R2 and R3 = alkyl and aryl groups; R4 and R5 = alkyl, aryl, halo, etc.; W = -(CH2)nO- and -Ar-(R)k-COO(CH2)nO- [Ar = arylene; R =alkylene; k = 0 or 1]; Z = alkyl, aryl, halo, etc.; n = 1-20 integer; m and q = 0-2 integers]].

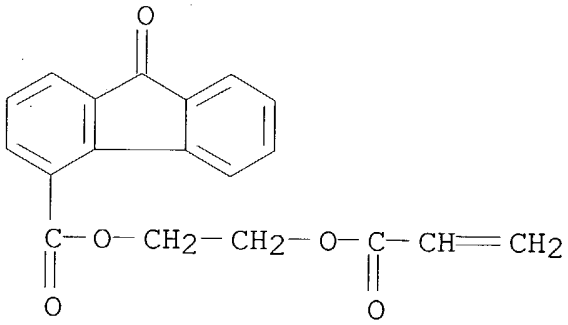
IT **403847-72-3**
(org. electroluminescent device)

RN 403847-72-3 HCA

CN 9H-Fluorene-4-carboxylic acid, 9-oxo-, 2-[(1-oxo-2-propenyl)oxy]ethyl ester, polymer with 2-hydroxyethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

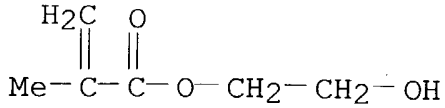
CM 1

CRN 190431-71-1
CMF C19 H14 O5



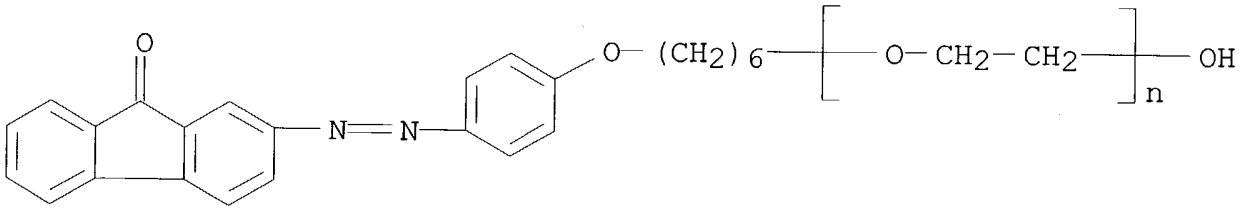
CM 2

CRN 868-77-9
CMF C6 H10 O3



IC ICM H05B033-14
ICS C08F020-12; C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38
IT 190431-83-5 **403847-72-3** 403847-73-4 403847-75-6
(org. electroluminescent device)

L15 ANSWER 9 OF 22 HCA COPYRIGHT 2004 ACS on STN
123:183661 Functional thin film, production and application thereof. Saji, Tetsuo (Dainichiseika Color Chem., Japan). Jpn. Kokai Tokkyo Koho JP 07062594 A2 19950307 Heisei, 41 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-234301 19930827.
AB The title film, useful for a color filter, electrophotog. device, photosensor, solar cell, electroluminescence device, optical recording device, optical nonlinear device, optoelectronic device, photochromic film, electrochromic film, gas sensor and ion sensor, is prepd. by an electrochem. redn. of a surfactant contg. an arom. azo residue, dispersed in a water or water contg. solvent. The title method requires min. or zero use of binder resin.
IT **167857-45-6**
(functional thin film prepd. by photochem. redn. of surfactant contg. arom. azo residue)
RN 167857-45-6 HCA
CN Poly(oxy-1,2-ethanediyl), α-[6-[4-(9-oxo-9H-fluoren-2-ylazo)phenoxy]hexyl]-ω-hydroxy- (9CI) (CA INDEX NAME)



IC ICM C25D009-08
ICS C25D013-04; G01N027-12; G01N027-333; G02B005-20; G02F001-15; G02F001-155; G02F001-17; G03G005-06; G11B007-26; H01L031-04
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 52, 72, 73, 76

ST color filter electrochemistry redn azo compd; electrophotog electrochemistry redn azo compd; photosensor electrochemistry redn azo compd; solar **cell electrochemistry** redn azo compd; electroluminescence electrochemistry redn azo compd; optical recording electrochemistry redn azo compd; optical nonlinear electrochemistry redn azo compd; optoelectronic device electrochemistry redn azo compd; photochromism electrochemistry redn azo compd; electrochromism electrochemistry redn azo compd; gas sensor electrochemistry redn azo compd; ion sensor electrochemistry redn azo compd

IT

156461-29-9	156461-30-2	167856-77-1	167856-78-2	167856-79-3
167856-80-6	167856-81-7	167856-82-8	167856-83-9	167856-84-0
167856-85-1	167856-86-2	167856-87-3	167856-88-4	167856-89-5
167856-90-8	167856-91-9	167856-92-0	167856-93-1	167856-94-2
167856-95-3	167856-96-4	167856-97-5	167856-98-6	167856-99-7
167857-00-3	167857-01-4	167857-02-5	167857-03-6	167857-04-7
167857-05-8	167857-06-9	167857-07-0	167857-08-1	167857-09-2
167857-10-5	167857-11-6	167857-12-7	167857-13-8	167857-14-9
167857-15-0	167857-16-1	167857-17-2	167857-18-3	167857-19-4
167857-20-7	167857-21-8	167857-22-9	167857-23-0	167857-24-1
167857-25-2	167857-26-3	167857-27-4	167857-28-5	167857-29-6
167857-30-9	167857-31-0	167857-32-1	167857-33-2	167857-34-3
167857-35-4	167857-36-5	167857-37-6	167857-38-7	167857-39-8
167857-40-1	167857-41-2	167857-42-3	167857-43-4	167857-44-5
167857-45-6	167857-46-7	167857-47-8	167857-48-9	
167857-49-0	167857-50-3	167857-51-4	167857-52-5	167857-53-6
167857-54-7	167857-55-8	167857-56-9	167857-57-0	167857-58-1
167857-59-2	167857-60-5	167857-61-6	167857-62-7	167857-63-8
167857-64-9	167857-65-0	167857-66-1	167857-67-2	167857-68-3
167857-69-4	167857-70-7	167857-71-8	167857-72-9	167857-73-0
167857-74-1				

(functional thin film prepd. by photochem. redn. of surfactant contg. arom. azo residue)

L15 ANSWER 10 OF 22 HCA COPYRIGHT 2004 ACS on STN

119:181376 Preparation of diphenylsilylene polymers containing main-chain acetylene and (hetero)aromatic groups: $\chi(2)$ nonlinear optical and other properties. Corriu, Robert J. P.; Douglas, William E.; Yang, Zhi-xin; Karakus, Yusuf; Cross, Graham H.; Bloor, David (Unite Mixte CNRS/Rhone Poulenc/USTL, CNRS UMR 44, Universite de Montpellier II Sciences et Techniques du Languedoc, Place Eugene Bataillon, Montpellier, 34095/5, Fr.). Journal of Organometallic Chemistry, 455(1-2), 69-76 (English) 1993. CODEN: JORCAI. ISSN: 0022-328X.

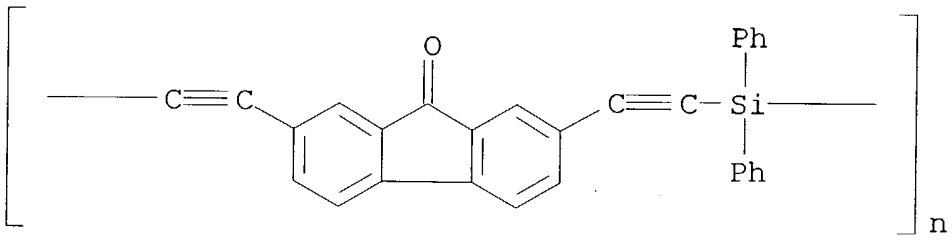
AB The title polymers, (C.tplbond.CSiPh2C.tplbond.CZ)n (I; Z = p-C6H4, 4,4'-biphenylyl, 9,10-anthracenediyl, fluorenediyl, 2,2'-bipyridine-6,6'diyl, pyridinediyl, 2,5-thiophenediyl, aminonitro-m-phenylene, hydroxynitro-m-phenylene,

cyanohydroxy-m-phenylene, or p-C6F4) are prepd. by reaction of SiPh2(C.tplbond.CH)2 with the appropriate arylene dihalide in the presence of (PPh3)2PdCl2, CuI and PPh3, the solvent being either NEt3 or NEt3/PhMe. The av. mol. wts. of the polymers were 2600-34,000. The UV spectra have absorption max. at 250-400 nm. The I (Z = 2-(dimethylamino)-5-nitro-m-phenylene) is $\chi(2)$ active, r33 is 0.8 pm/V following fixed **electrode** poling at 17.5 V/μm. The polymers do not melt below the decompn. temp., and all transitions shown in the DSC thermogram at ≤300° were absent on repeat scans. TGA and thermal dynamic anal. of I (Z = p-C6H4) indicated decompn. commencing at 290° and continuing to .apprx.750°. The residue was composed of α-SiC and amorphous C.

IT **150303-25-6P 150321-54-3P**
(prepn. and characterization of)

RN 150303-25-6 HCA

CN Poly[(diphenylsilylene)-1,2-ethynediyl(9-oxo-9H-fluorene-2,7-diyl)-1,2-ethynediyl] (9CI) (CA INDEX NAME)

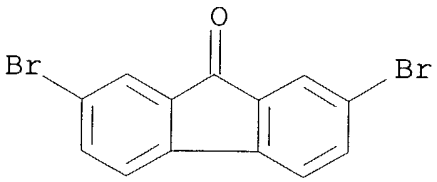


RN 150321-54-3 HCA

CN 9H-Fluoren-9-one, 2,7-dibromo-, polymer with diethynyldiphenylsilane (9CI) (CA INDEX NAME)

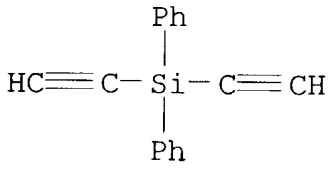
CM 1

CRN 14348-75-5
CMF C13 H6 Br2 O



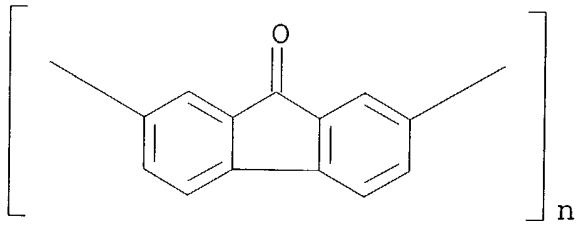
CM 2

CRN 1675-57-6
CMF C16 H12 Si



CC 35-5 (Chemistry of Synthetic High Polymers)
IT 32107-89-4P 131151-41-2P 131151-42-3P 131151-43-4P
131151-44-5P 131151-45-6P 131151-46-7P 131159-95-0P
131174-86-2P 131174-87-3P 131174-88-4P 131174-89-5P
131174-90-8P 131174-91-9P 131174-92-0P 131174-93-1P
138554-91-3P 150303-24-5P **150303-25-6P** 150303-26-7P
150303-27-8P 150303-28-9P 150321-52-1P 150321-53-2P
150321-54-3P 150321-55-4P 150321-56-5P 150321-57-6P
(prepn. and characterization of)

L15 ANSWER 11 OF 22 HCA COPYRIGHT 2004 ACS on STN
106:127769 Redox polymer films from **cathodic** coupling of 4,4'-dibromobenzophenone and 2,7-dibromofluorenone. Zecchin, Sandro; Schiavon, Gilberto; Tomat, Renato; Zotti, Gianni (Ist. Polarogr. Elettrochim. Prep., C.N.R., Padua, 35020, Italy). Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 215(1-2), 377-83 (English) 1986. CODEN: JEIEBC. ISSN: 0022-0728.
AB Expts. were made to show the feasibility of an earlier (S. et al., 1984) described method for obtaining polyarom. films on **electrodes**. The electrodeposition of electroactive films of polybenzophenone and of polyfluorenone by **cathodic** coupling from organonickel(II) complexes of the title compds. is described. The Ni complexes were bromo(4-bromo-4'-benzophenonyl)bis(triphenylphosphine)nickel and bromo(2-bromo-7-fluorenoyl)bis(triphenylphosphine)nickel. The polybenzophenone and polyfluorenone films were obtained by **cathodic** coupling.
IT **107207-76-1P**
(prepn. by **cathodic** coupling of nickel complexes of dibromofluorenone)
RN 107207-76-1 HCA
CN Poly(9-oxo-9H-fluorene-2,7-diyl) (9CI) (CA INDEX NAME)

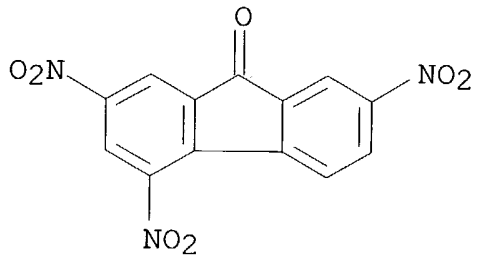


CC 72-2 (Electrochemistry)
Section cross-reference(s): 35
ST benzophenone fluorenone polymer **cathodic** coupling; dibromobenzophenone **cathodic** coupling polybenzophenone; dibromofluorenone **cathodic** coupling polyfluorenone
IT 3988-03-2, 4,4'-Dibromobenzophenone 14348-75-5, 2,7-Dibromofluorenone
(**cathodic** coupling of nickel-coordinated, redox polymer films from)
IT 107282-78-0 107309-04-6
(**cathodic** coupling of, redox polymer films from)
IT 85654-84-8P
(prepn. by **cathodic** coupling of nickel complexes of dibromobenzophenone)
IT **107207-76-1P**
(prepn. by **cathodic** coupling of nickel complexes of dibromofluorenone)

L15 ANSWER 12 OF 22 HCA COPYRIGHT 2004 ACS on STN
106:112096 Photoconduction in polyvinyl carbazole thin films polymerized by plasma-CVD. Inoue, Masumi; Morita, Hiromasa; Takai, Yoshiaki; Mizutani, Teruyoshi; Ieda, Masayuki (Dep. Electr. Eng., Nagoya Univ., Nagoya, 464, Japan). Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers, 25(10), 1495-9 (English) 1986. CODEN: JAPNDE.
AB A study on the radio-frequency plasma-chem. vapor deposition of an org. photoconductor, poly(vinylcarbazole) (PVK), was carried out. The chem. structure of photoconductive PVK is similar to that of conventional PVK, from IR and UV spectroscopic studies. The voltage dependence of the photocurrent is explained by the Onsager theory. The photovoltaic effect was obsd. when Al was used as an **electrode**. The power-conversion efficiency was 3 + 10-3% for extremely thin photoconductive PVK film (.apprx.80 nm).
IT **9020-74-0**
(photoconduction in thin films of, contg. trinitrofluorenone)
RN 9020-74-0 HCA
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

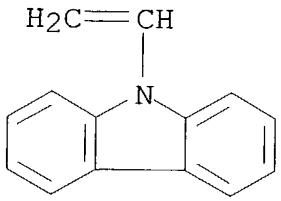


CM 2

CRN 25067-59-8
CMF (C14 H11 N)x
CCI PMS

CM 3

CRN 1484-13-5
CMF C14 H11 N



CC 76-5 (Electric Phenomena)
Section cross-reference(s): 74
IT **9020-74-0**
(photoconduction in thin films of, contg. trinitrofluorenone)

L15 ANSWER 13 OF 22 HCA COPYRIGHT 2004 ACS on STN
104:199123 Sensor for determining arsine. Pakhomov, L. G.; Fel, Ya. A.; Soborover, E. I.; Karyakin, O. V.; Tverskoi, V. A.; Gostishchev, L. N.; Kiselev, V. D.; Pravednikov, A. N.; Pashkin, I. I.; Andrievskii, A. M. (Scientific-Research Institute of Chemistry, Gorki, USSR; Moscow Institute of Fine Chemical Technology). U.S.S.R. SU 1193557 A1 19851123 From: Otkrytiya, Izobret. 1985, (43), 181. (Russian).

CODEN: URXXAF. APPLICATION: SU 1984-3696030 19840127.

AB A copolymer of vinyl ether and 2,5,7-trinitrofluorenone-4-carboxylic acid is used to form a semiconductor layer for an AsH3 sensor.

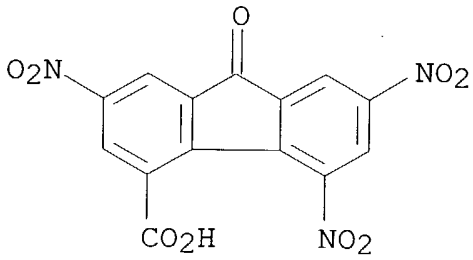
IT **101945-03-3**
(semiconductive layer from, for arsine sensor)

RN 101945-03-3 HCA

CN 9H-Fluorene-4-carboxylic acid, 2,5,7-trinitro-9-oxo-, polymer with 1,1'-oxybis[ethene] (9CI) (CA INDEX NAME)

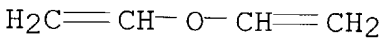
CM 1

CRN 24929-26-8
CMF C14 H5 N3 O9



CM 2

CRN 109-93-3
CMF C4 H6 O



IC ICM G01N027-02

CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 36, 76

IT **Electrodes**
(semiconductive, for arsine sensors)

IT **101945-03-3**
(semiconductive layer from, for arsine sensor)

L15 ANSWER 14 OF 22 HCA COPYRIGHT 2004 ACS on STN

101:73290 Polymers from 5-membered ring hetero compounds. (Matsushita Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59043060 A2 19840309 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-153009 19820902.

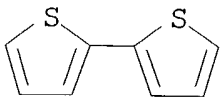
AB Polymers for elec. device applications comprise a 5-membered-ring hetero compd. and an electron acceptor. Thus, a current of 1 mA/cm2

was passed through a soln. of 1 g thiophene and 0.1 g TCNQ in 100 mL Me2SO4 for 30 min to form a film on the **anode**. The film had elec. cond. 0.43 Ω-cm.

IT **91380-45-9P**
(prepn. of, by electrochem. polymn.)
RN 91380-45-9 HCA
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, polymer with 2,2'-bithiophene (9CI) (CA INDEX NAME)

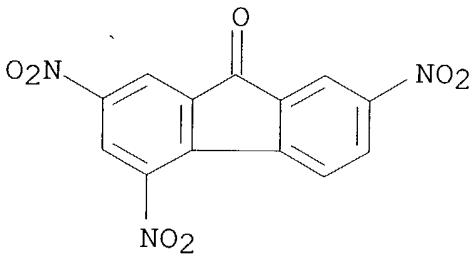
CM 1

CRN 492-97-7
CMF C8 H6 S2



CM 2

CRN 129-79-3
CMF C13 H5 N3 O7



IC C08L085-00; C08G075-00; C08G079-00; C08L081-00
CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 72, 76
IT 91380-29-9P 91380-41-5P 91380-42-6P 91380-43-7P 91380-44-8P
91380-45-9P 91380-46-0P
(prepn. of, by electrochem. polymn.)

L15 ANSWER 15 OF 22 HCA COPYRIGHT 2004 ACS on STN
98:180014 Steady-state photoconductivity of the charge transfer complex of poly(N-vinylcarbazole) and 2,4,7-trinitro-9-fluorenone. Liu, Tongming; Wan, Meixiang; Yang, Dalin; Qian, Renyuan (Inst. Chem., Acad. Sin., Beijing, Peop. Rep. China). Gaofenzi Tongxun (4), 317-20 (Chinese) 1982. CODEN: KFTTAR. ISSN: 0453-2880.

AB The photoconductive spectra of poly(N-vinylcarbazole)-2,4,7-trinitro-9-fluorenone charge-transfer complex (I) [**9020-74-0**] (1:0.5 molar ratio) obtained with sandwich and surface cells was reported. The effects of wavelength, field strength and polarity of the illuminated **electrode** on Lux-Ampere index γ were discussed. Two kinds of photocarrier generation were suggested. When λ was >500 nm, the photocarriers were generated by light absorption of I; when λ was <500 nm, the photocarriers were produced by poly(N-vinylcarbazole) [25067-59-8] and 2,4,7-trinitro-9-fluorenone [129-79-3] free mols. present in the film.

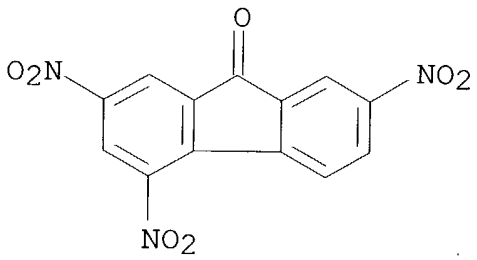
IT **9020-74-0**
(photocond. of)

RN 9020-74-0 HCA

CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

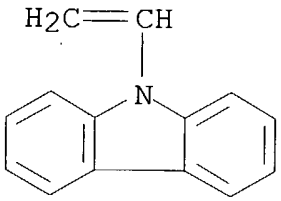


CM 2

CRN 25067-59-8
CMF (C14 H11 N)x
CCI PMS

CM 3

CRN 1484-13-5
CMF C14 H11 N

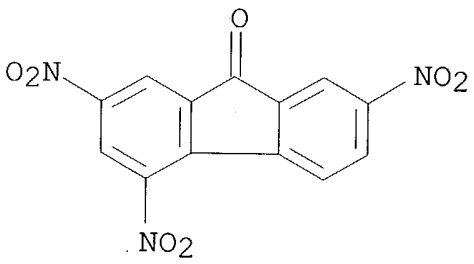


CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76
IT **9020-74-0**
(photocond. of)

L15 ANSWER 16 OF 22 HCA COPYRIGHT 2004 ACS on STN
98:90220 Dark conductivity of the charge transfer complex, poly(N-vinylcarbazole)-2,4,7-trinitro-9-fluorenone. Part II. Qian, Renyuan; Wan, Meixiang; Ying, Xinfang; Chen, Xiangxian (Inst. Chem., Acad. Sin., Beijing, Peop. Rep. China). Kexue Tongbao (Chinese Edition), 27(17), 1049-51 (Chinese) 1982. CODEN: KHTPAT. ISSN: 0023-074X.
AB The voltage-current curves obtained with different **electrodes** (Au, Ag, Cu) were superimpossible, indicating that properties in the non-Ohmic region were a body effect for 2:1 poly(N-vinylcarbazole) 2,4,7-trinitro-9-fluorenone complex [**9020-74-0**] and arose from the dependence of transition on the elec. field.
IT **9020-74-0**
(cond. of, in dark, mechanism of)
RN 9020-74-0 HCA
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

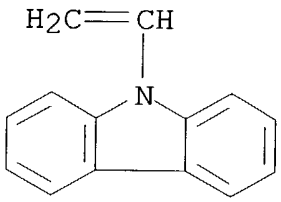


CM 2

CRN 25067-59-8
CMF (C14 H11 N)x
CCI PMS

CM 3

CRN 1484-13-5
CMF C14 H11 N



CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 76
IT **9020-74-0**
(cond. of, in dark, mechanism of)

L15 ANSWER 17 OF 22 HCA COPYRIGHT 2004 ACS on STN
94:56526 A.C. conductance of organic solid thin films. Qian, Ren-Yuan; Jin, Xiang-Feng; Zhou, Shu-Qin (Inst. Chem., Acad. Sin., Shanghai, Peop. Rep. China). Wuli Xuebao, 29(8), 992-9 (Chinese) 1980. CODEN: WLHPAR. ISSN: 0372-736X.
AB The frequency dependence of a.c. conductance of org. solid thin films was studied. The dependence of the conductance on the square of the frequency is an artifact due to the **electrode** contact resistance and the capacitance of the film. A method based on an added external resistance is proposed to evaluate this **electrode** contact resistance. To characterize the a.c. conductance of org. solid thin films, 3 parameters are suggested. I.e., the d.c. specific conductance σd.c. at extremely low frequencies, the exponent n in the expression σ(f)∝ fn for the region of higher frequencies, and the value of fx at which the straight line on the lgσ-lgf plot intersects the horizontal line σ = σd.c.. For a soln. cast film of polyvinylcarbazole (PVK)-2,4,7-trinitrofluorenone (TNF) (1:0.75) charge transfer complex and an evapd. film of Cu phthalocyanine (PcCu) the following results were obtained: PVK-TNF (1:0.75):σd.c. = 1.9 + 10-16(Ω.cm)-1, n = 0.96, fx = 6.1 + 10-3 Hz at 14°; and PcCu: σd.c. = 1.6 + 10-9(Ω.cm)-1, n = 1.2, fx = 1 + 105 Hz at

17°.

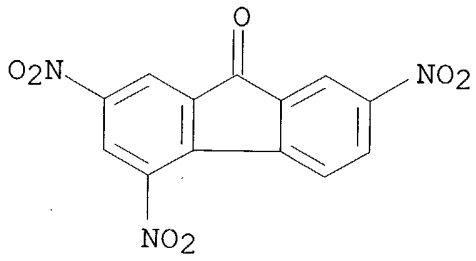
IT **9020-74-0**
(elec. conductance of thin films of)

RN 9020-74-0 HCA

CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

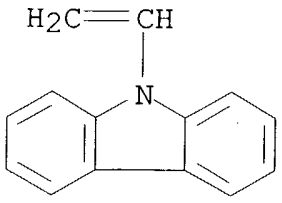


CM 2

CRN 25067-59-8
CMF (C14 H11 N)x
CCI PMS

CM 3

CRN 1484-13-5
CMF C14 H11 N



CC 76-2 (Electric Phenomena)

IT 147-14-8 **9020-74-0**
(elec. conductance of thin films of)

L15 ANSWER 18 OF 22 HCA COPYRIGHT 2004 ACS on STN

93:105800 A one-dimensional ferroelectric image sensor using an organic

photoconductor. Geary, J. M. (Bell Telephone Lab., Murray Hill, NJ, 07974, USA). Ferroelectrics, 27(1-4, 1979 IEEE Int. Symp. Appl. Ferroelectr., Part I), 231-4 (English) 1980. CODEN: FEROA8. ISSN: 0015-0193.

AB A scanning 1-dimensional image sensor was fabricated by using a Gd molybdate crystal. The ease of motion of a domain wall is perturbed by the cond. variations in a polymeric photoconductive layer coated on 1 of the crystal faces. These perturbations are sensed as alterations of the voltage-current relationship of the device as detd. by an external circuit. The device was fabricated without the use of a mask, photolithog., or **electrode** patterning. The optical resoln. in the direction of scanning was 20-25 μ.

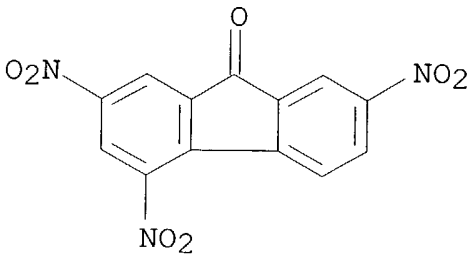
IT **72006-43-0**
(gadolinium molybdate ferroelec. image sensor with photoconductive layer of)

RN 72006-43-0 HCA

CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with 9-ethenyl-3,6-diiodo-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

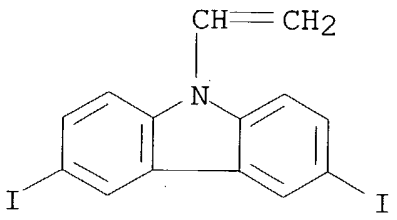


CM 2

CRN 50698-53-8
CMF (C14 H9 I2 N)x
CCI PMS

CM 3

CRN 50698-52-7
CMF C14 H9 I2 N

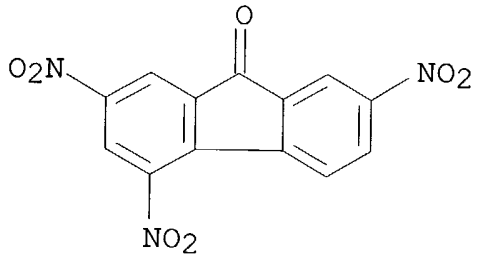


CC 76-14 (Electric Phenomena)
Section cross-reference(s): 35, 74
IT **72006-43-0**
(gadolinium molybdate ferroelec. image sensor with photoconductive layer of)

L15 ANSWER 19 OF 22 HCA COPYRIGHT 2004 ACS on STN
93:98412 Photovoltaic properties of polymer films. Reucroft, P. J.; Ullal, H. (Dep. Metall. Eng. Mater. Sci., Univ. Kentucky, Lexington, KY, 40506, USA). Solar Energy Materials, 2(2), 217-28 (English) 1980. CODEN: SOEMDH. ISSN: 0165-1633.
AB The effect of metal **electrode** and film thickness on the photovoltaic energy conversion efficiency in (1:1) mole ratio films of poly(N-vinylcarbazole) and 2,4,7-trinitrofluorenone was investigated. Low work function metals increase the Schottky barrier height which leads to increases in the photovoltaic energy conversion efficiency. A 10-fold decrease in film thickness produces a 103-fold increase in photovoltaic energy conversion efficiency. A theor. model which assumes that the photovoltaic current is limited by Child's law predicts photovoltaic efficiencies which are in good agreement with the measured efficiencies.
IT **39613-12-2**
(photoelec. solar cells contg. films of, effect of film thickness and metal **electrodes** on properties of)
RN 39613-12-2 HCA
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with 9-ethenyl-9H-carbazole homopolymer (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

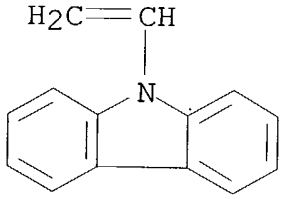


CM 2

CRN 25067-59-8
CMF (C14 H11 N)x
CCI PMS

CM 3

CRN 1484-13-5
CMF C14 H11 N



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 37

IT 7440-06-4, uses and miscellaneous 7440-19-9, uses and miscellaneous 7440-22-4, uses and miscellaneous 7440-47-3, uses and miscellaneous 7440-57-5, uses and miscellaneous
(**electrodes**, solar cells with poly(vinylcarbazole) and trinitrofluorenone films and, properties of)

IT **39613-12-2**
(photoelec. solar cells contg. films of, effect of film thickness and metal **electrodes** on properties of)

L15 ANSWER 20 OF 22 HCA COPYRIGHT 2004 ACS on STN
85:185335 Violation of the "universality" of transit-time dispersion in 1:1 TNF.PVK. Godson, S. M.; Hirsch, J. (Birbeck Coll., Univ. London, London, UK). Solid State Communications, 20(3), 285-6 (English) 1976. CODEN: SSCOA4. ISSN: 0038-1098.

AB Transit current profiles for electrons in 1:1 TNF.PVK (Luvican) (1)

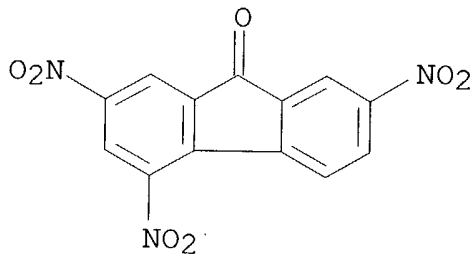
generated by an electron beam and (2) injected from an **electrode** are compared. Both sets exhibit "tails" scaling with flight-time, but the scale factors differ between the 2 sets, challenging the interpretation of the tails in terms purely of statistical flight-time dispersion.

IT **39613-12-2**
(transit current profiles for electrons in)

RN 39613-12-2 HCA
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with 9-ethenyl-9H-carbazole homopolymer (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

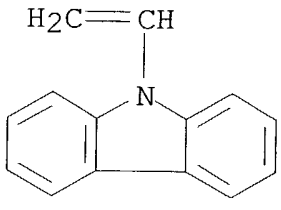


CM 2

CRN 25067-59-8
CMF (C14 H11 N)x
CCI PMS

CM 3

CRN 1484-13-5
CMF C14 H11 N



CC 76-3 (Electric Phenomena)
IT **39613-12-2**

(transit current profiles for electrons in)

L15 ANSWER 21 OF 22 HCA COPYRIGHT 2004 ACS on STN
84:158659 Theoretical and experimental photovoltaic energy conversion in an organic film system. Reucroft, P. J.; Takahashi, K.; Ullal, H. (Dep. Metall. Eng. Mater. Sci., Univ. Kentucky, Lexington, KY, USA). Journal of Applied Physics, 46(12), 5218-23 (English) 1975. CODEN: JAPIAU. ISSN: 0021-8979.

AB A theor. model in which charge sepn. takes place at an **electrode** energy barrier was extended to est. the photovoltaic energy conversion efficiency as a function of film thickness and energy barrier for an org. film system based on the PVK-TNF charge-transfer complex. The model predicts that the theor. efficiency is detd. by space-charge-limited conduction for films of thickness >0.1 μ. The efficiency is proportional to the inverse cube of the film thickness in this film thickness range. In the case of ultrathin films (<(0.1 μ) , the efficiency is detd. by the photocarrier generation efficiency and can approach 1%. Exptl. photovoltaic energy conversion for films of thickness 5-25 μ are in agreement with the general features predicted by the model.

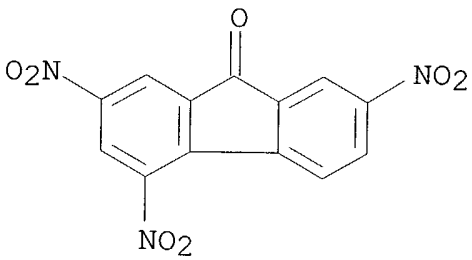
IT **39613-12-2**
(photovoltaic effect in films of)

RN 39613-12-2 HCA

CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with 9-ethenyl-9H-carbazole homopolymer (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

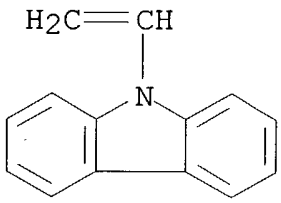


CM 2

CRN 25067-59-8
CMF (C14 H11 N)x
CCI PMS

CM 3

CRN 1484-13-5
CMF C14 H11 N

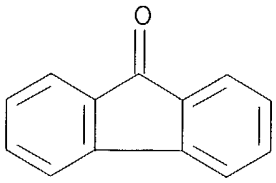


CC 76-9 (Electric Phenomena)
Section cross-reference(s): 52
IT **39613-12-2**
(photovoltaic effect in films of)

L15 ANSWER 22 OF 22 HCA COPYRIGHT 2004 ACS on STN
59:19894 Original Reference No. 59:3547c-e Electrochemical study of free ketyl radicals. Grabowski, Zbigniew R.; Kalinowski, Marek K. (Polish Acad. Sci., Warsaw). Preprints Papers Intern. Symp. Free Radicals, 5th, Uppsala 22-1-22-7 (Unavailable) 1961.
AB Polarographic and voltammetric methods were applied to study the fluorenone system aromatic ketone-ketyl radical-aromatic pinacol in aq. EtOH solns. The 1st **anodic** process was the oxidn. of a free radical from its redn., and the 2nd an oxidn. of its dimer, fluorenopinacol (I). The rate of dissocn. of I in solns. into radicals increased with increasing pH. In solns. of pH > 11, the radical existed as an anion. The pH independence of the redn. potential of fluorenone, and the oxidn. potential of the radical in the 1-electron oxidn.-redn. system fluorenone-fluorenone ketyl radical was -1.00 ± 0.02 v. vs. satd. calomel **electrode**, in 0.4M NaOH, 20 vol. % EtOH, 20°. The plot of the potential of the **anodic** peak of I vs. pH was a straight line with the slope dE/dpH = -0.136 v./pH, and without inflection point in the range pH 7-13.5. Oxidn. of I was a slow electron-transfer process with transmission coeff. β = 0.43, and preceded by an acid dissocn. reaction. Resemblances to the system benzophenone-benzophenone ketyl-benzopinacol were cited, and differences discussed.
IT **101940-27-6**, Fluoren-9-one, sodium ketyl, dimer
(polarography of)
RN 101940-27-6 HCA
CN Fluoren-9-one, sodium ketyl, dimer (7CI) (CA INDEX NAME)

CM 1

CRN 34474-12-9
CMF C13 H8 O . Na
CCI RIS



● Na^+

CC 15 (Electrochemistry)
IT **101940-27-6**, Fluoren-9-one, sodium ketyl, dimer
(polarography of)